CATALOGUE

The following bulletins comprise the Catalogue of the University:

PART I Scholarships, Fellowships, Teaching Assistantships, Assistantships, Loan Funds, Prizes—Main University

PART II College of Pharmacy

PART III College of Business Administration

PART IV College of Engineering

PART V General Information, Main University

PART VI College of Arts and Sciences

PART VII Graduate School

PART VIII School of Law

PART IX Medical Branch* 

PART X College of Fine Arts

PART XII Dental Branch†

PART XIII College of Education

PART XIV The Southwestern Medical School‡

PART XV School of Architecture

* Part IX, catalogue of the Medical Branch, is distributed by the office of the Dean of the Medical Branch, Galveston.
† Part XII, catalogue of the Dental Branch, is distributed by the office of the Dean of the Dental Branch, Houston.
‡ Part XIV, catalogue of The Southwestern Medical School, is distributed by the office of the Dean of the School of The Southwestern Medical School, Dallas.

GENERAL PURPOSE OF THE CATALOGUE

The Catalogue Parts of the Main University are intended to give general information, to record the work of the biennium about to close (except Part VI), and to make announcements for the ensuing period specified in each case.

As to the courses to be offered the following Long Sessions, the Catalogue contains only a preliminary announcement and is superseded by the Final Announcement of Courses, printed each semester.

The Catalogue contains the official regulations. Except as to degree requirements, these regulations are not valid beyond the period specified on the cover page.

THE UNIVERSITY OF TEXAS
AUSTIN, TEXAS
Part VI: College of Arts and Sciences

Graduate degrees are offered in the Graduate School. For the requirements of the degrees of Doctor of Philosophy, Doctor of Education, and all master's degrees except the Master of Laws degree, see the catalogue of the Graduate School. The requirements for the Master of Laws degree are given in the catalogue of the School of Law.

GENERAL REQUIREMENTS

1. No honorary degree will be conferred by The University of Texas.
2. No degree will be conferred except on dates publicly announced.
3. It is desired that each candidate attend the Commencement at which his degree is to be conferred.
4. No degree will be conferred without a residence in the Main University at least two long-session semesters, or an equivalent period of residence, the completion in residence of at least thirty semester hours in courses offered by the College of Arts and Sciences counting toward the degree.
5. At least twenty-four of the last thirty semester hours offered for any graduate degree must be taken in the Main University, but not necessarily in residence. In the case of the Degree of Bachelor of Arts, Plan III, Scheme IV, and Plan IV, Scheme II, this rule applies to the academic work.
6. Of the courses offered for any undergraduate degree, at least six semester hours in advanced courses in the major subject must be completed in residence at the Main University.
7. Not more than 30 per cent of the semester hours required for any degree offered in the College of Arts and Sciences may be done by correspondence.
8. No second bachelor's degree will be conferred until the candidate has completed at least twenty-four semester hours in addition to those counted toward the bachelor's degree which requires the highest number of semester hours of credit.
9. A candidate for a degree must (1) register in the University in the College of Arts and Sciences in the long-session semester or in the Summer Session in which he is to receive the degree; and (2) apply for the degree by filling out a "Diploma Name Card" with the Dean not later than one month before the closing date of the semester or term in which the degree is to be granted.
10. Seniors will not be approved for graduation unless they have complied with the regulations regarding required health and physical education. See the General Information bulletin.

11. An Air Force or Army Reserve Officers Training Corps student who has completed the basic and/or advanced program in air science or military science will be approved for graduation until his Government contract is completed, unless the student is released from the ROTC. (See the sections describing the Air Force and Army Reserve Officers Training Corps in the General Information bulletin.)

12. Courses in air science, military science, and naval science may be counted for degree credit as tabulated on pages 26 and 27 of this catalogue.

Degrees

GRADUATION UNDER A PARTICULAR CATALOGUE

A student may obtain a degree in the College of Arts and Sciences according to the requirements of the catalogue under which he enters the Main University, or he may obtain a degree in the College of Arts and Sciences according to the requirements of either the catalogue applying to the previous Long Session or to the next Long Session. A student completing in the Division of Extension, either in extension classes or in correspondence, or in both ways together, by March 1 of any year, at least one semester hour of work counting toward a degree in the College of Arts and Sciences may obtain that degree in accordance with the requirements of the catalogue applying to that year. Between the above provisions, however, are subject to the restriction that all the requirements for a degree in the College of Arts and Sciences must be completed within six years of the date of the catalogue chosen. A student who leaves school to enter military service and who upon returning to graduate under a catalogue in effect for him prior to his entry into military service must complete all requirements for a degree within six years of the date of the catalogue chosen, exclusive of time spent in the service during a period of emergency.

A student may always graduate under the current catalogue.

APPLYING FOR A DEGREE

To apply for a bachelor's degree, the applicant (a) Must file with the Dean a "Degree Card" not later than March 1 of his senior year. A student who intends to take a bachelor's degree in military science with law or medicine should apply for a "Degree Card" in the fall semester of his sophomore year. The "Degree Card" is a photostat copy of the applicant's record and will be prepared in the Registrar's office upon the request of the applicant and the payment of fifty cents to cover the cost of photostating the record. (b) Must register in the University at the beginning of his senior year with the Dean and fill out a "Diploma Name Card" at the last registration before graduation, giving the date of graduation. (c) A degree will be conferred unless a "Diploma Name Card" applying for the degree has been filed with the Dean. A "Diploma Name Card" should be filed at the last registration before graduation, but it must be filed not later than one week before the closing date of the semester or term in which the degree is to be granted.

In advising and in registering students, the Dean and his assistants try to avoid errors. Avoidance of errors is the main purpose of the "Degree Card." Each student himself is expected to remember that graduation is attained
according to some one catalogue, is expected to study the requirements set forth in that one catalogue, and to register in accordance therewith. He fails at his own risk.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF ARTS

PLAN I
A. Prescribed Work

1. Twelve semester hours of English (English 601 or 601Q, and six semester hours of sophomore English).
2. Six semester hours of mathematics, or Greek 406 and 407, or six semester hours of Latin other than Latin 406. (A student who begins Latin in the University should take Latin 406, 407, and 311.) Some majors do not permit substitution. See requirements under "C. Majors and Minors." A student may offer courses in one of the classical languages in satisfaction of this requirement, but may not offer the same courses toward the satisfaction of Requirements elsewhere.
3. Foreign Language: The foreign language requirement is the attainment of a certain proficiency rather than the completion of a specified number of hours. Completion of courses 406 and 407 in a foreign language and six semester hours of work beyond that level in the language, generally course 612, or work beyond thereof as may be required by the score on the placement test meets the requirement. A student offering Latin must take at least twelve hours of Latin, regardless of the score made on the placement test. A student who chooses a major in the Latin American Institute must take Spanish 211 and Portuguese (see the bulletin of the Institute of Latin American Studies). For the special foreign language requirement for the Eastern European Studies program, see "Eastern European Studies" under "C. Majors and Minors."

If a Romance language is used in meeting this requirement, any student desiring a knowledge of the language, however acquired, may absolve the course by passing, with a grade of at least B, the final examination in the highest course called for by the requirement. Application for such a final examination must be made to the Chairman of the Department of Romance Languages before the regularly scheduled period of final examinations.
4. Twelve semester hours in the natural sciences, including (a) six semester hours in a laboratory course in physical science (chemistry or physics) or Physics 609; and (b) Biology 607 or Zoology 311K and 311L. Special departmental requirements will be found under "C. Majors and Minors."
5. Six department hours in American government (Government 610).
6. Six department hour in United States history (History 615 or any advanced semester hours in United States history).
7. The requirements set down below under "C. Majors and Minors."
8. Thirty-six semester hours of advanced courses. (See "Course numbers in the General Information bulletin.) Not more than twelve of the thirty-six semester hours of advanced courses of this requirement may be taken outside of the College of Arts and Sciences.

B. Special Requirements

The student must make (a) an average of at least fifteen points per semester in the courses taken at the University which are required and counted toward the degree, and (b) an average of at least fifteen points per semester in the courses taken at the University and counted as the major subject. In addition, majors in speech are required to make an average of at least fifteen points per semester hour on the courses other than speech taken at the University and counted toward the degree. (See "C. Majors and Minors." below.) An A grade on a semester hour counts as 21 points; a B, 18 points; a C, as 15 points; a D, as 12 points; and an F, as 0.

The student must, not later than three weeks before the end of the term in which he expects to take his degree, show such ability to write and correct English as to satisfy the Committee on Students' Use of English. To promote the habitual use of clear and correct English, the written work of all students is subject to inspection by the Committee. It is the duty of each member of the teaching staff to require that his students shall be careful in their use of English, to give due weight to the students' use of English in marking up papers, and to report promptly to the Committee, submitting the evidence, any student whose use of English is seriously defective. If any student be found deficient, the Committee will prescribe for him such work as in its judgment is necessary, and this work must be done to the satisfaction of the Committee before a student can obtain his degree.

C. Majors and Minors

The student is advised to choose his major subject as early as possible in his college career but is not required to do so until the beginning of his junior year. Before registering for advanced courses in his major subject or in a related subject, a student is strongly advised to consult the chairman of his major department.
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The student will note that it is possible to arrange his minors and electives as to take in effect two majors. Such an arrangement is especially desirable to those who wish to teach two subjects.

Courses in business administration, education, engineering, fine arts, literature, physical science, pharmacy, art science, military science, and naval science do not count as majors and may not count as minors except as specified below.

Any course taken to meet the requirements under "A. Prescribed work" counts also toward satisfying the major and minor requirements, unless otherwise specified below.

At least eighteen semester hours of advanced courses, including six semester hours of advanced courses in the major, must be completed in residence at the University.

Students who wish to major in subjects which by their nature involve a work of more than one department may follow special majors programs designed by faculty representatives from those departments whose work is involved as approved by the Dean.

In general, the major and minor requirements are as follows:

Major: Twenty-four semester hours in one of the subjects listed below, of which at least twelve must be in advanced courses. No freshman course may be counted in fulfillment of the major requirement unless specifically authorized by the major department.

Minors as listed under the major subject:

First Minor: Twelve semester hours in a field closely related to the major.

Second Minor: Six semester hours in another field supporting the major.

ANTHROPOLOGY

Major: Twenty-four semester hours of anthropology, of which at least twelve must be in advanced courses. Anthropology 301 and 302 may be counted toward the major.

First Minor: Twelve semester hours of classical civilization, economics, geography, geology, history, history, philosophy, psychology, sociology, or zoology; or, with written consent of the Departmental Chairman and approval of the Dean, twelve semester hours in another subject.

Second Minor: Six semester hours in a subject listed above which is not offered as the first minor; or, with written consent of the Departmental Chairman and approval of the Dean, six semester hours in another subject not listed as the first minor.

ASTRONOMY

Major: Eighteen semester hours of astronomy above freshman rank, of which at least fifteen must be in advanced courses, and six semester hours of mathematics.

Minor: Twelve semester hours of physics to be chosen from the following courses: Physics 325, 326, 335, 339, 468 (or 435).

BACTERIOLOGY

Major: Biology 607 and twenty-four semester hours of bacteriology above freshman rank, of which at least twelve must be in advanced courses. Students interested in medical technology should consult the medical technology adviser.

First Minor: Twelve semester hours of chemistry.

Second Minor: Six semester hours of botany, education, physics, or zoology; or additional semester hours of chemistry.

BOTANY

Major: Twenty-four semester hours of botany above freshman rank, of which at least twelve must be in advanced courses.

First Minor: Twelve semester hours of anthropology, bacteriology, botany, chemistry, geography, geology, philosophy, physics, mathematics, zoology, or education.

Second Minor: Six semester hours in a subject listed above which is not covered in the first minor.

CHEMISTRY

Mathematics 613 or 613E and either Physics 801 or Physics 401 and 812 are awarded to all students majoring in chemistry.

Major: Chemistry 801; 812; 810, or 621 and 420; and 453.

First Minor: Twelve semester hours of bacteriology, botany and/or zoology, chemistry, mathematics, or physics; or, with written consent of the Departmental Chairman and approval of the Dean, twelve semester hours in a subject offered outside the College of Arts and Sciences.

Second Minor: Six semester hours in a subject listed above which is not included as the first minor.

CZECH

Major: Twenty-four semester hours of Czech, of which at least twelve must be in advanced courses. Czech 406 and 407 may be counted in fulfillment of the major requirement.

First Minor: Six semester hours of sophomore or advanced courses in a social foreign language.

Second Minor: Six semester hours of advanced courses in English, or a social science (anthropology, economics, geography, government, history, philosophy, political science, sociology, or linguistics, or a natural science.

EASTERN EUROPEAN STUDIES

A student concentrating in Eastern European Studies is strongly advised to consult the Chairman of the Program for advice in working out his schedule.

Major: The student must satisfy the major requirement as set down under Economics (p. 34), or Geography (p. 35), or Government (p. 36), or History (p. 36). Courses in the chosen major which are listed below as required for Eastern European Studies will also count toward the major requirement.
GOVERNMENT

Major: Twenty-four semester hours of government, of which at least twelve must be in advanced courses. Either Government 301 or 302 may be counted toward the major.

First Minor: Twelve semester hours, of which six must be advanced, in anthropology, economics, history, philosophy, or sociology; or, with written consent of the Departmental Chairman and approval of the Dean, twelve semester hours of business administration, geography, journalism, or psychology.

Second Minor: Six semester hours in (a) a subject listed above which is not offered as the first minor or (b) in classical civilization with the approval of the Chairman of the Department of Government.

GREEK

Major: Twenty-six semester hours of Greek, as follows: (a) Classical Greek Program: 406, 407, 612, 624, and 665; or (b) New Testament and Hebrew Greek Program: 406, 407, 619, 628, and 661 or 662. Students entering with credits in Greek should consult the course section of this catalog.

First Minor: Twelve semester hours in either a second foreign language, preferably Latin, or in advanced English and/or advanced linguistics.

Second Minor: Six semester hours of advanced courses selected from classical civilization, ancient history, Government 356K or 361, Philosophy 329K.

HISTORY

Major: Twenty-four semester hours of history, of which at least twelve must be in advanced courses. Freshman courses may be counted in fulfillment of the major requirement.

First Minor: Twelve semester hours, of which six must be advanced, in a second social science (anthropology, economics, geography, government, philosophy, psychology, or sociology), classical civilization, English, or a modern ancient language. Students are invited to propose combinations of their own to the Departmental Chairman, or to the designated undergraduate advisor. The Dean, with the approval of the Dean, permit substitutions from any college of the University.

Second Minor: Six semester hours in a subject listed above, of which six must be advanced.

HOME ECONOMICS

Major: Twenty-four semester hours of home economics, of which at least twelve must be advanced. Six semester hours of freshman courses may be counted in fulfillment of the major requirement.

First Minor: Twelve semester hours of anthropology, bacteriology, biology, chemistry, economics, physics, psychology, sociology, or zoology.

Second Minor: Six semester hours of architecture, art, business administration, education, or journalism; or six additional semester hours in a subject chosen as the first minor.

LATIN

Major: Twenty-eight semester hours of Latin, as follows: 406, 407, 210, 311, 523, and 665. Students entering with credits in Latin should consult the Chairman of the Department of Classical Languages.

First Minor: Twelve semester hours in either a second foreign language, preferably Greek, or in advanced English and/or advanced linguistics.

Second Minor: Six semester hours of advanced courses selected from classical civilization, ancient history, Government 356K or 361, Philosophy 329K.

LATIN AMERICAN STUDIES

Major: Twenty-four semester hours in one of the following: anthropology, economics, geography, geology, government, history, Spanish. Eighteen of these twenty-four semester hours must be in advanced courses, including at least six hours in Latin American content courses.

Minor: Twelve semester hours in one of the fields listed above which is not part of the major, or twelve semester hours in either business administration or education. At least six of these twelve semester hours must be in Latin American content courses, and the other hours must be in Latin American related courses.

For information concerning Latin American content courses and related courses, see the bulletin of the Institute of Latin American Studies.

LINGUISTICS

Students majoring in linguistics must satisfy the prerequisite for junior year in at least two foreign languages.

Major: Twenty-four semester hours including (1) Phonetics 403 or English 344K; (2) nine semester hours above the level of course 406 in a foreign language other than the minor; (3) Linguistics 620; and (4) (a) for descriptive Linguistics, six semester hours selected from: English 360K, 364K, 364M; French 371; German 369; Linguistics 361, 362; Spanish 371K; or (b) for Historical Linguistics, six semester hours selected from: English 364L, 364M; French 373; German 368; Greek 661, 662, 665; Latin 260, 665; Linguistics 361; Portuguese 373; Spanish 373. (Note the prerequisite for these senior courses.)

First Minor: Twelve semester hours of anthropology, geography, Greek, Latin, modern foreign language, psychology, or speech; or twelve semester hours of a subject listed above, of which six must be advanced.

Second Minor: At least twelve semester hours in another foreign language or in a subject listed above which is not offered as the first minor.

MATHEMATICS

Major: Twenty-four semester hours of mathematics above freshman rank, of which at least twelve must be in advanced courses; or fifteen semester hours of...
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mathematics, including at least three hours of advanced courses, and nine hours of advanced astronomy.

Minor: Twelve semester hours of at least sophomore rank offered in the Colleges of Arts and Sciences, Business Administration (excluding Secretarial Studies 304 and 305), Education, or Engineering.

PHILOSOPHY

Major: Twenty-four semester hours of philosophy above freshman rank of which at least twelve must be in advanced courses.

First Minor: Twelve semester hours in a second social science (anthropology, economics, geography, government, history, psychology, or sociology); or with written consent of the Departmental Chairman and approval of the Dean, twelve semester hours in a subject other than a social science.

Second Minor: Six semester hours in a third social science; or, with written consent of the Departmental Chairman and approval of the Dean, six semester hours in a subject other than a social science.

PHYSICS

Students majoring in physics must take at least twelve semester hours in mathematics, including Mathematics 613 or 613E, and Chemistry 801.

Major: Twenty-four semester hours of physics above freshman rank, of which at least sixteen must be in advanced courses.

First Minor: Twelve semester hours of mathematics or chemistry.

Second Minor: Six semester hours of mathematics (not counted as the first minor), botany, chemistry (not counted as the first minor), geology, or zoology.

Not more than eight semester hours of freshman courses may be used in satisfying the minor requirements.

PSYCHOLOGY

Psychology majors must take six semester hours of mathematics.

Major: Twenty-four semester hours of psychology above freshman rank of which at least twelve must be in advanced courses. (Psychology 610K is strongly recommended.)

First Minor: Twelve semester hours of anthropology, chemistry, education, psychology, management, mathematics, philosophy, physics, sociology, or statistics.

Second Minor: Six semester hours in a subject listed above which is not offered as the first minor.

SOCIOLGY

Major: Twenty-four semester hours of sociology, including Sociology 302 or 3101 or 322 and at least twelve advanced hours, of which six must be of senior rank. Six semester hours of advanced courses in sociology may be counted in fulfillment of the major requirement. Not more than six semester hours of courses offered in other departments or schools of the University which each student under certain conditions may be counted in fulfillment of the major requirement.

First Minor: Twelve semester hours, of which six must be advanced, of at least four hours of each of two of the following: political science, economics, geography, government, history, philosophy, or psychology, with written consent of the Departmental Chairman and the approval of the Dean, twelve semester hours in a subject not listed above.

Second Minor: Six semester hours in a subject listed above which is not offered as the first minor.

SPANISH

Major: Spanish 406, 407, 612, 218 (or the equivalent), and at least twelve semester hours of advanced courses in Spanish. A student who fails to pass Spanish 406 with a grade of A or B is required to present at least sixteen semester hours of advanced courses in Spanish. Only such portion of the freshman and sophomore classes may be taken as may be required by the score on the placement test.

First Minor: Six semester hours of sophomore or advanced courses in a second foreign language.

Second Minor: (a) Six additional semester hours of advanced courses in this second foreign language, or (b) at least three semester hours of a sophomore course in a third foreign language, or (c) six semester hours of advanced courses in English, or (d) six semester hours of advanced courses in classical civilization, linguistics, or in a social science (anthropology, economics, geography, government, history, philosophy, psychology, or sociology).

SPEECH

Major: Thirty semester hours of speech, including Speech 305, 306, 306, sixty semester hours of advanced courses, of which six hours are of senior rank.

Minor: (a) Drama 314; (b) six semester hours of advanced courses in English; and (c) six semester hours of advanced courses in any one of these subjects: anthropology, classical civilization, economics, education, English, geography, government, history, journalism, linguistics, psychology, sociology.

ZOOLOGY

Major: Twenty-four semester hours of zoology above freshman rank, of which at least twelve must be in advanced courses.

First Minor: Twelve semester hours of bacteriology, botany, chemistry, geology, mathematics, physics, or psychology.

Second Minor: Six semester hours in a subject listed above which is not offered as the first minor; or, with written consent of the Departmental Chairman and approval of the Dean, six semester hours of education.

D. Rules Governing the Order and Choice of Work

FRESHMAN YEAR

The following work is recommended for the freshman year:

(a) English 601 or 601Q (prescribed for all students).

(b) Six semester hours of mathematics, or Greek 406 and 407, or six semester hours of Latin other than Latin 406. A student who offers
LATIN

See Department of Classical Languages.

LINGUISTICS COURSES

For the requirements for the Bachelor of Arts degree with linguistics as a major, see page 37.

For Undergraduates and Graduates

620. Introduction to Linguistic Science.—Presents the current approach to linguistic study, especially as developed and carried on in this country. First semester: Analysis and presentation of languages; descriptive linguistics. Second semester: Development and change of languages; historical linguistics. Prerequisite: Six hours of sophomore English or foreign language. Three lectures a week for two semesters. Mr. Lehmann.

322. Elementary Arabic.—Prerequisite: Twelve hours of a foreign language or junior standing. Three lectures a week for one semester. (Not given in 1953-1954.)

324. Elementary Arabic.—Prerequisite: Linguistics 323 or three hours of advanced linguistics. Three lectures a week for one semester. (Not given in 1953-1954 or 1954-1955.)

361. Phonetics and Phonemics.—Articulatory and acoustic investigations of speech, with emphasis on analytic procedures; study of the function of speech sounds in specific linguistic structures. Prerequisite: Linguistics 630. Three lectures a week for one semester. Mr. Lehmann. (Not given in 1953-1954.)

362. Field Methods in Linguistic Investigation.—Recording and analysis of living languages as employed by native speakers of these languages, with emphasis on the phonemic and morphemic procedures involved in producing a grammar. Prerequisite: Linguistics 361. Three lectures a week for one semester. Mr. Lehmann. (Not given in 1954-1955.)
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305 (P.M. 302). Analytic Geometry.—Only one of the following may be counted: Mathematics 305, 305E, 305K; Applied Mathematics 305; Pure Mathematics 302, 302K. Prerequisite: Trigonometry. Three lectures a week for one semester.

305E (A.M. 305). Analytic Geometry.—Designed for engineers. Only one of the following may be counted: Mathematics 305E, 305, 305K; Applied Mathematics 305; Pure Mathematics 302, 302K. Prerequisite: Mathematics 302 or 204E, or Applied Mathematics 204 and 309A. Three lectures a week for one semester.

305K (P.M. 302K). Number Analysis and Analytic Geometry.—Only one of the following may be counted: Mathematics 305K, 305, 305E; Applied Mathematics 305; Pure Mathematics 302, 302K. Prerequisite: One of the following: Mathematics 301, 301E, 304, 304K; Pure Mathematics 301, 301K, 304. Three lectures a week for one semester.

306 (P.M. 303). Second Course in Analytic Geometry.—Prerequisite: Mathematics 305, 305E, or Pure Mathematics 302. Three lectures a week for one semester. (Not given in 1953–1954.)

309 (P.M. 305). Solid Geometry.—May not be counted by students who have credit in solid geometry unless their total number of acceptable admission units exceeds fifteen (however, see "Surplus Admission Units" in the General Information bulletin). An extension of classical Euclidean geometry to three dimensions. Lines and planes, polyhedra, cylinders, cones, spheres and Prerequisite: A high-school course in plane geometry. Three lectures a week for one semester.

613 (P.M. 613). Calculus.—Only one of the following may be counted: Mathematics 613, 613E; Applied Mathematics 613; Pure Mathematics 613. Each is a three advanced hours if preceded by nine hours of mathematics, or as six advanced hours if preceded by twelve hours of mathematics. Prerequisite: Analytic geometry. Three lectures a week for two semesters.

613E (A.M. 613). Calculus.—Designed for engineers. Only one of the following may be counted: Mathematics 613E, 613; Applied Mathematics 613; Pure Mathematics 613. May count as three advanced hours if preceded by nine hours of mathematics, or as six advanced hours if preceded by twelve hours of mathematics. Prerequisite: Analytic geometry. Three lectures a week for two semesters.

315 (A.M. 311, P.M. 315). Theory of Equations.—Prerequisite: Analytic geometry. Three lectures a week for one semester.

316 (P.M. 308). Elementary Mathematical Statistics.—Graphical presentation of data, interpretation of statistical tables, frequency distributions, distribution functions, averages, variance, standard deviation, curve-fitting, and related topics. Prerequisite: Six hours of mathematics. Three lectures a week for one semester.

317 (P.M. 317). Higher Algebra.—An intensive course in algebra, including determinants and combinations, interest and annuities, limiting values, convergence and divergence of series, summation of series, probability, theory of equations, and other topics which cannot be fully covered in college algebra. Prerequisite: Six hours of mathematics, including Mathematics 301 or Pure Mathematics 304. Three lectures a week for one semester. (Not given in 1953–1954 or 1954–1955.)

319 (P.M. 219). Problems Course for Actuarial Examination, Part 2.—Prerequisites: Supplementary instruction in algebra, trigonometry, analytic geometry, and calculus. Designed to develop ability in problem solving and to aid students in preparing for Part 2 of the examinations required for membership in the Actuaries Society of America. Prerequisite or parallel: Mathematics or Pure Mathematics 311. Two lectures a week for one semester. Mr. Lane. (Not given in 1953–1954 or 1954–1955.)

For Undergraduates and Graduates

311K (P.M. 321K). Advanced Calculus.—Designed to develop ability to understand and solve problems. Approximations, limits, functions, derivatives, and integrals. Prerequisite: Six hours of calculus. Three lectures a week for one semester.

311L (P.M. 321L). Advanced Calculus.—Continuation of Mathematics 321K. Functions defined by integrals, expansions for functions, multiple integrals, applications. Prerequisite: Mathematics or Pure Mathematics 321K. Three lectures a week for one semester.

322K (A.M. 322K, P.M. 322K). Differential Equations and Applications.—Prerequisite: Six hours of calculus. Three lectures a week for one semester.


624 (P.M. 624). Introduction to the Foundations of Analysis.—Prerequisite: Six hours of calculus and consent of instructor. Three lectures a week for two semesters. Mr. Moore.

625 (A.M. 325). Advanced Calculus with Engineering Applications.—Prerequisite: Six hours of calculus. Three lectures a week for one semester.
326 (A.M. 326). Differential Equations with Engineering Applications.—Prerequisite: Six hours of calculus. Three lectures a week for one semester.

327 (P.M. 327). Ruler and Compass Constructions.—Prerequisite: Three hours of mathematics. Three lectures a week for one semester. (Beginning in 1954–1955, combined with Mathematics 328 and 333 and given as two three-hour courses, Mathematics 333K and 333L.)

330K (A.M. 330, P.M. 630L). Advanced Analytic Geometry of the Euclidean and Projective Planes.—Analytic methods of homogeneous and linear coordinates as applied to the real and complex domains of metric and projective geometries of the plane and space. Prerequisite: Six hours of calculus. Three lectures a week for one semester. Mrs. Porter. (Not given in 1954–1955.)

331 (P.M. 331). Introduction to the Foundations of Geometry.—Prerequisite: Twelve hours of mathematics. Three lectures a week for one semester. Mrs. Mow.

333 (P.M. 333). Teaching Problems in Mathematics.—Prerequisite: Three hours of mathematics. Three lectures a week for one semester. (Beginning in 1954–1955, combined with Mathematics 327 and 328 and given as two three-hour courses, Mathematics 333K and 333L.)

333L. Teaching Problems in Geometry.—Basic ideas of plane and solid geometry; ruler and compass constructions; representation of space objects in plane projections; use of these ideas in teaching plane and solid geometry. Prerequisite: Twelve hours of mathematics. Three lectures a week for one semester. (Prior to 1954–1955, given as a part of Mathematics 327, 328, 333.)

340 (A.M. 340, P.M. 340). Interpolation and Graphical Methods.—Numerical graphs, empirical formulae, operations with symbols, interpolation by direct and indirect, approximate or numerical integration. Includes study of advancing, central, and divided differences. Prerequisite: Three hours of advanced calculus, or Mathematics or Pure Mathematics 219 and six hours of calculus. Three lectures a week for one semester. Mr. Greenwood.

340L (P.M. 340L). Interpolation and Numerical Methods.—Continuation of Mathematics 340. Prerequisite: Mathematics, Applied Mathematics, or Pure Mathematics 340; or twelve hours of advanced mathematics. Three lectures a week for one semester. Mr. Greenwood.

645 (P.M. 645). Probability.—May count as business administration. Principles underlying statistical inference, including probability distributions, random variables, conditional probabilities, and expected values. Prerequisite: Six hours of calculus. Three lectures a week for two semesters. Mr. Lane.

361 (A.M. 361). Theory of Functions of a Complex Variable.—Prerequisite: Mathematics 321L, or 322L, or 325 and 326, or the equivalent. Three lectures a week for one semester. Mr. Cooper.
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671. (A.M. 373L). Introduction to Abstract Algebra and Number Theory.—Prerequisite: Mathematics or Applied Mathematics 371K. Three lectures a week for one semester.

674 (A.M. 374). Fourier and Laplace Transforms.—Prerequisite: Mathematics 322L, or 325 and 326, or the equivalent. Three lectures a week for one semester. Mr. Guy.

674K (A.M. 374K). Fourier and Laplace Transforms.—Continues the development of the theory and applications of various integral transforms begun in Mathematics 374. Prerequisite: Mathematics or Applied Mathematics 374. Three lectures a week for one semester. Mr. Guy.

675 (A.M. 375). Conference Course.—May be repeated for credit. Prerequisite: Senior standing in mathematics and consent of instructor.

676 (A.M. 676). Functions of Several Real Variables.—Introduction to the fundamental processes in mathematics needed for work in modern applied mathematics. Prerequisite: Mathematics 321L, or 322L, or 325 and 326, or the equivalent. Three lectures a week for one semester. Mr. Guy.

678 (P.M. 646). Mathematical Statistics.—May count as business administration, distribution functions, averages, curve-fitting methods, correlation, functions of chance variables, applications to sampling problems. Prerequisite: Six hours of advanced mathematics. Three lectures a week for two semesters. Mr. Lane.

679 (P.M. 647). Actuarial Mathematics.—May count as business administration, compound interest, mortality tables, values of annuities, premium and policy values, dividends. Prerequisite: Six hours of advanced mathematics. Three lectures a week for two semesters. Mr. Lane.

For Graduates


381L (A.M. 381L). Applications of Tensor Analysis.


392M (P.M. 393M). Sampling Theory.

683 (P.M. 683). Theory of Functions of Real Variables.


684M (P.M. 685). Infinite Processes.

696 (P.M. 686). Functional Analysis.


688 (P.M. 688). Foundations of Mathematics.

689 (P.M. 689). Point Sets and Continuous Transformations.

690 (P.M. 690). Research in Point-Set Theory.
